

Engineering Design File 1548

Staging, Storage, Sizing, and Treatment Facility (SSSTF)

Siting Study

Prepared for:
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Idaho Operations Office
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INEEL

Idaho National Engineering & Environmental Laboratory

BECHTEL BWXT IDAHO, LLC

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5. Summary:

This Engineering Design File (EDF) evaluates three proposed sites for locating the Staging, Storage, Sizing, and Treatment Facility (SSSTF) (see page 19). This facility will serve as the center for all waste handling and processing for the Idaho National Environmental and Engineering Laboratory (INEEL) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility (ICDF). The primary siting criteria include location, land use, geology/topography, environmental impact, space/layout utilities, and proximity to support services.

The information contained in this study was input into the Criterium DecisionPlus software and analyzed. Input to the program and results from the analysis can be seen on page 15 and in Appendix B.

CONCLUSION

Based on the results of this study and on the software analysis, it is recommended that the SSSTF be constructed at proposed Site 1.

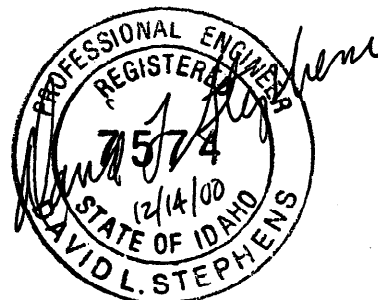
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ACRONYMS

AOC	Area of Contamination
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
EDF	Engineering Design File
ICDF	INEEL CERCLA Disposal Facility
INEEL	Idaho National Engineering and Environmental Laboratory
INET	INEEL Network
INTEC	Idaho Nuclear Technology and Engineering Center
SSSTF	Staging, Storage, Sizing, and Treatment Facility

Staging, Storage, Sizing, and Treatment Facility (SSSTF) Siting Study

1. INTRODUCTION

The U.S. Department of Energy Idaho Operations Office (DOE-ID) authorized a remedial design/remedial action (RD/RA) for the Idaho Nuclear Technology and Engineering Center (INTEC) in accordance with the Waste Area Group (WAG) 3, Operable Unit (OU) 3-13 Record of Decision (ROD).¹

The ROD requires Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remediation wastes generated within the Idaho National Engineering and Environmental Laboratory (INEEL) boundaries to be removed and disposed of onsite in the INEEL CERCLA Disposal Facility (ICDF). The ICDF, which will be located south of INTEC and adjacent to the existing percolation ponds, will be an onsite, engineered facility, meeting Resource Conservation and Recovery Act (RCRA) Subtitle C, Idaho Hazardous Waste Management Act (HWMA), and polychlorinated biphenyl (PCB) landfill design and construction requirements. The ICDF will include the necessary subsystems and support facilities to provide a complete waste disposal system.

The major components of the ICDF are the disposal cells, an evaporation pond, and the Staging, Storage, Sizing, and Treatment Facility (SSSTF). The disposal cells, including a buffer zone, will cover approximately 40 acres, with a disposal capacity of about 510,000 cy. Current projections of INEEL-wide CERCLA waste volumes total about 483,800 cy. The SSSTF will be designed to provide centralized receiving, inspection, and treatment necessary to stage, store, and treat incoming waste from various INEEL CERCLA remediation sites prior to disposal in the ICDF, or shipment offsite. All SSSTF activities shall take place within the WAG 3 area of contamination (AOC) to allow flexibility in managing the consolidation and remediation of wastes without triggering Land Disposal Restrictions (LDRs) and other RCRA requirements, in accordance with the OU 3-13 ROD. Only low-level, mixed low-level, hazardous, and limited quantities of Toxic Substances Control Act (TSCA) wastes will be treated and/or disposed of at the ICDF. Most of the waste will be contaminated soil, but debris and Investigative Derived Waste (IDW) will also be included in the waste inventory. ICDF leachate, decontamination water and water from CERCLA well purging, sampling, and well development activities will also be disposed of in the ICDF evaporation pond.

Only INEEL onsite CERCLA wastes meeting the agency approved Waste Acceptance Criteria (WAC) will be accepted at the ICDF. An important objective of the WAC will be to ensure that hazardous substances disposed in the ICDF will not result in exceeding groundwater quality standards in the underlying groundwater aquifer. Acceptance criteria will include restrictions on contaminant concentrations based on groundwater modeling results with the goal of preventing potential future risk to the Snake River Plain Aquifer (SRPA).

This document contains a siting study which examines three sites adjacent to the landfill unit to determine the best available location for the SSSTF.

2. FACILITY SITING CRITERIA

2.1 Basic Facility Criteria

The ICDF landfill unit will be located just southwest the Idaho Nuclear Technology and Engineering Center (INTEC), and within the Area of Contamination (AOC) boundary as recommended in

*Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13.*¹ Since the SSSTF directly interfaces with this landfill unit, a basic criterion is that it also should be located within this AOC boundary. The SSSTF will consist of a storage building, a treatment building, an administrative office building, a decontamination building, truck scales, and miscellaneous staging and storage pads. Paved areas will be provided for parking, working, and staging. Paved roads will be constructed that lead to and from the facility. These roads will facilitate orderly load processing through the facility. Another basic criterion for selecting a site for the SSSTF is that sufficient area be available for the above buildings and access roads.

Based on these basic criteria, the SSSTF should be located outside the INTEC security fence, adjacent to the 40-acre landfill unit study area, and within the AOC boundary. Essentially, there are only three distinct areas that meet these basic criteria. These three areas (proposed sites) are evaluated in this study. Other criteria, some of which are briefly mentioned in this study, apply equally to each site but are not included since they do not serve to differentiate the proposed sites.

2.2 Primary Facility Criteria

2.2.1 Location

The new SSSTF should be located within the AOC Boundary, and adjacent to the landfill unit. The facility should allow easy access to both Lincoln Boulevard and West Perimeter Road. (Based on current traffic counts there will not be any undue traffic delays due to the construction of the SSSTF at any of the proposed sites). West Perimeter Road will likely be modified and extended for access to the landfill unit. Minimum exposure to brush fire should be a consideration. The potential for wind blown radiological contamination should be as low as possible.

2.2.2 Land Use/Zoning

The location of the SSSTF should not conflict with past or future land use activities. The SSSTF should be located outside the INTEC security fence due to the lack of sufficient area inside the INTEC security fence and also due to the increased time, cost, and complexity resulting from processing trucks through an INTEC security gate.

Any requirements cited by the National Archeological and Historic Preservation Act and the Native American Graves Protection Act will be met. However, from the information known at this time, these requirements are expected to apply equally to all of the proposed sites, due to their close proximity to each other. Therefore, consideration is not given to this criterion in the site selection analysis of this study.

2.2.3 Geology/Topography

The location should lend itself to standard building foundation design and construction. The site groundwater level should be at least 10 ft below the finish floor elevation. Areas where groundwater contamination exists should be avoided, if possible.

Based on previous subsurface investigations, rock and groundwater are not likely to be encountered in this area. Prior to Title II design, additional soil borings will be conducted at the actual locations of structure footings to verify the absence of rock.

The site must be outside the 100-yr flood plain elevation as defined by *Preliminary Water-Surface Elevations and Boundary of the 100-year Peak Flow in the Big Lost River at the Idaho National*

*Engineering and Environmental Laboratory, Idaho*² and as required by the Record of Decision (ROD) (see Reference 1 and page 20).

2.2.4 Environmental Impact

The SSSTF must be located in such a manner as to minimize environmental impacts. Sufficient drainage facilities must be provided to control storm water and to prevent erosion. The disturbance or alteration of wildlife habitat or the natural ecosystems should be avoided.

2.2.5 Space/Layout

In addition to the area required for initial operations, a reasonable amount of area should remain available for possible future expansion of the SSSTF. The exact area needed initially for the administration building, the treatment process building, and the staging/storage pads, including area around these items for access, is yet to be determined.

2.2.6 Utilities

The SSSTF should be located as near as possible to existing services that can provide the required utilities as outlined in this section. Where specific sizes or capacities are listed, these values are currently anticipated and may change during Title design. Other water supply options, such as building a water tank and pumphouse near the proposed site, as opposed to tie-ins to INTEC systems, were considered. However, since the only practical and cost effective way to supply the other utilities was to route them from INTEC in the same trench or utility corridor, these options are not treated in detail in this study.

- Potable Water: Potable water supply to the facility must support all necessary potable water needs, including rest rooms, drinking fountains, sinks, and showers. A 3-in. potable water main will likely be sufficient for the facility.
- Process (Raw) Water: Process water supply to the facility must support all raw water needs. The line size is yet to be determined based on final selection of processes.
- Fire Water: The water supply line for fire water should be able to support a 12-in. main maximum.
- Sewer: The sanitary sewer line coming from the facility must be capable of handling the peak demand from all sanitary facilities installed at the SSSTF.
- Electrical Power: Approximately 2500 kW will be required for the SSSTF. This value includes approximately 500 kW of optional standby power
- Telephone/Data Communications: 50 pairs of conductors are required for telephone service.
- Life Safety: 10 pairs of fiber-optic cables are needed from the new INTEC Telephone Dial Room to the administration building at the SSSTF.

Sufficient capacity at proposed INTEC tie-ins has been verified by design personnel for each of the above services.

2.2.7 Support Services

The recommended site location should be close to existing facilities that provide the following support services:

- Bus transportation
- Cafeteria
- Crafts/maintenance
- Fuel supply
- Medical.

Since the proposed sites are all within 2,000 ft of each other, this criterion, although considered in the decision process, is not weighted heavily and thus not explicitly discussed in the following sections.

2.2.8 Cultural Environment

Based on the conclusions of the siting study for the ICDF cited in the ROD (page 11-19), the most cost effective and ARAR-compliant location for siting the ICDF was within the AOC and further within the approved Study Area for finalizing the siting of the specific ICDF cell locations. Since all of the proposed sites in this EDF fall within that approved Study Area, it is concluded that all the sites considered in siting the SSSTF are equal in terms of meeting such ARARs as the National Archeological and Historic Preservation Act and the Native American Graves Protection and Repatriation Act.

Since it is not anticipated that any site will have a higher or lower rating due to cultural environment impacts, this criterion is not considered further in this siting study.

3. ALTERNATE SITES SELECTED FOR STUDY

3.1 Site 1

Site 1 is located northwest of the southwest corner of the INTEC facility. It would be situated north of the landfill unit. See page 20, Proposed Site 1.

3.2 Site 2

Site 2 is located south of the southwest corner of the INTEC facility. It would be situated east of the landfill unit. See page 20, Proposed Site 2.

3.3 Site 3

Site 3 is located southwest of the southwest corner of the INTEC facility. It would be situated south of the landfill unit. See page 20, Proposed Site 3.

4. ALTERNATE SITE EVALUATION

4.1 Site 1: Adjacent To and North of the Landfill Unit

4.1.1 Location

Site 1 is located immediately south of INTEC Substation No. 2. Access from INTEC and its immediate perimeter will be provided by the existing West Perimeter Road. Other INEEL remediation sites and the SSSTF will be accessed with a new road located south of Site 1, thus effectively tying the existing Lincoln Boulevard to the West Perimeter Road.

Access for manual fire fighting efforts is adequate since this proposed site is accessible on all four sides and would have roads on three sides. Exposure to brush fire exists on all four sides, but is somewhat limited due to the fire break created by the three roads.

The potential of being impacted by wind-blown radiological contaminants from the landfill is higher for this site than for Site 3 since the predominant wind direction near INTEC is from the southwest.

Emergency response time from the Central Facilities Area to this site is the same as for the alternate sites.

4.1.2 Land Use/Zoning

This site is an undisturbed area. No other facilities are currently planned for this area.

4.1.3 Geology/Topography

This site is relatively flat with slight gradient to the east. Building finish floor elevations will be raised approximately 2 ft to improve runoff away from buildings. Suitable fill will be available nearby from stockpiles resulting from the evaporation pond excavation.

Bedrock contours in this area are shown on page 21. This area overlaps areas with documented groundwater contamination as shown on pages 23-25.

4.1.4 Environmental Impact

This site will be bordered on three sides with roads. A drainage system will need to be constructed to provide for drainage coming from the new buildings and slabs and to prevent erosion from roadway runoff.

4.1.5 Space/Layout

The proposed SSSTF facility layout for this site is shown on page 27. The area is bordered by three roads and the 100-yr flood plain elevation contour as shown on page 20. This area comprises approximately 29 acres. A limited amount of area is available to the east and north for possible future expansion. An evaporation pond will likely be constructed to the southeast of proposed Site 1 near the former percolation ponds. With the SSSTF in this location, landfill unit expansion is possible only to the south.

4.1.6 Utilities

- Potable Water: A 3-in. potable water line is available in the main INTEC utility tunnel. The best tie-in location for this site location is under Maple Street where the tunnel turns to the east toward the Coal-Fired Steam Generating Facility. A 3-in. potable water line would be routed from the tunnel directly west beneath the security fences and the access road, then south to the proposed new SSSTF. This routing consists of approximately 1,434 ft of pipe, with 6-ft-deep trenching, and little shoring required. Few underground utilities or other obstacles exist over the route.
- Process (Raw) Water: A line will be routed from a tie-in point in the utility tunnel at Birch Street. Approximately 681 ft of pipe is required.
- Fire Water: A looped arrangement of approximately 4,344 linear ft of 12-in. diameter pipe is required to provide fire water to this site.
- Sanitary Sewer: The closest sanitary sewer manhole available for tie-in is MAH-SAB-WQ-419, located southwest of building CPP-1646 under Redwood Street. This manhole is connected to an 8-in. sanitary sewer line (WQ-NH-155397, on the INTEC West Side Sanitary Sewer System). The new line could run immediately west from the manhole across the security fencing and access road then run south to the proposed new SSSTF. The new line would be a pressurized 3-in. pipe buried 6 ft below grade. The routing consists of approximately 700 ft of trenching and piping, with little shoring required. Few underground utilities or other obstacles exist over the route.
- Electrical Power: Power cables will be run underground from existing switches located west of CPP-603. Both the normal and standby power systems are accessible at this location. The switches are located approximately 972 ft from the proposed site. Normal and standby power will be extended at 13.8 kV. Access to the site from the east would require construction of a roadway under the existing line. The conductors range in height above the ground from 20 to 40 ft, and clearance needs to be a minimum of 20 ft 6 in. Therefore, the location of the access roads needs to be coordinated with the location of the structures supporting the overhead conductors. Additionally, the structure located close to the north edge of the site is stabilized with guy wires which need to be avoided and protected from damage. Taking power from Substation No. 2 was considered; however, standby power is currently available from within INTEC. Thus, both normal and standby power will be routed as outlined above.
- Telephone/Communications: Telephone tie-ins would occur at the new Telephone Dial Room. The total distance of cable to Site 1 would be approximately 1,470 ft. Communication lines would tie in to the existing INEEL Network (INET) system located near CPP-666. The total distance of cable to Site 1 would be approximately 1,470 ft.
- Life Safety: Ten pairs of fiber-optic cables from the new INTEC Telephone Dial Room to the new facility are required. Ideally the cables will be underground in a duct bank that is shared with the telephone and power. These cables will be in a dedicated conduit. Approximately 1,470 ft of cable is needed.

The routing for the above listed utilities are shown on page 26.

4.2 Site 2: Adjacent To and East of the Landfill Unit

4.2.1 Location

Access from the INTEC site and its immediate perimeter will be provided by an extension of the existing West Perimeter Road. Extension of the north-south road approximately 200 ft to the south would provide adequate access to the proposed Site 2. Other INEEL remediation sites and the ICDF will be accessed with a new road tying the existing Lincoln Boulevard to the proposed West Perimeter Road extension.

Access for manual fire fighting efforts is adequate since this proposed site is accessible on all four sides and has roads on two sides. Exposure to brush fire exists on three sides, but is somewhat limited due to the fire break created by the two roads.

This site overlaps an environmentally controlled area on the northeast side (CPP-22) and borders another environmentally controlled area to the east (CPP-67, former site of INTEC percolation ponds). These areas are shown on page 22.

The potential of being impacted by wind-blown radiological contaminants from the landfill is higher for this site than for Site 3 since the predominant wind direction near INTEC is from the southwest.

Emergency response time from the Central Facilities Area to this site is longer than to Sites 1 or 3 due to the increased distance required to travel along the extension of West Perimeter Road.

4.2.2 Land Use/Zoning

This site is an undisturbed area. No other facilities are currently planned for this area.

4.2.3 Geology/Topography

This site is relatively flat except for two berm areas. One berm is about 7 ft high and runs in the north-south direction; it is approximately 700 ft in length and about 25 ft in width. The other berm, also about 7 ft high, runs east/west on the south end of the site and is approximately 500 ft in length and about 25 ft in width. These berms will require removal prior to construction. Building finish floor elevations will be raised approximately 2 ft to facilitate drainage. Suitable fill will be available nearby from stockpiles resulting from the evaporation pond excavation. Drainage, if any, would flow to the east.

Bedrock contours in this area are shown on page 21. This area overlaps areas with documented groundwater contamination as shown on pages 23-25.

4.2.4 Environmental Impact

This site will be bordered on two sides with roads. A drainage system will need to be constructed to provide for drainage from the new buildings and slabs and to prevent erosion from roadway runoff. This site overlaps an environmentally controlled area on the northeast side and borders another environmentally controlled site to the east (former site of INTEC percolation ponds).

4.2.5 Space/Layout

The area at Site 2 will be bordered by two roads and the area occupied by the former INTEC percolation ponds. For the most part, the layout for Site 2 will be mirrored from proposed Site 1 as shown on page 27. The evaporation pond, however, would be located to the south of this site. In order to provide some expansion potential to the south, the evaporation pond could be located as near to the AOC boundary as possible. In this layout, the amount of area available for expansion is roughly equal to that for proposed Site 1. The landfill unit expansion, on the other hand, is possible both to the north and to the south.

4.2.6 Utilities

- Potable Water: A 3-in. potable water line is available in the main INTEC utility tunnel. The best tie-in location for this site location is under Maple Street where the tunnel turns to the east toward the Coal-Fired Steam Generating Facility. A 3-in. potable water line would be routed from the tunnel directly west across the security fences and the access road, then south to the proposed new SSSTF. This routing consists of approximately 2,500 ft of pipe, with 6-ft-deep trenching and little shoring required. Few underground utilities or other obstacles exist over the route.
- Process (Raw) Water: A line will be routed from a tie-in point in the utility tunnel at Birch Street. Approximately 1,642 ft of pipe is required.
- Fire Water: A looped arrangement of approximately 5,802 linear ft of 12-in.-diameter pipe is required to provide fire water to this site.
- Sanitary Sewer: The closest sanitary sewer manhole available for tie-in is MAH-SAB-WQ-419, located southwest of building CPP-1646 under Redwood Street. This manhole is connected to an 8-in. sanitary sewer line (WQ-NH-155397, on the INTEC West Side Sanitary Sewer System). The new line would run immediately west from the manhole beneath the security fencing and access road then run south to the proposed new SSSTF. The new line would be a pressurized 3-in. pipe buried 6 ft belowgrade. The routing consists of approximately 1,850 ft of trenching and piping, with little shoring required. Few underground utilities or other obstacles exist over the route.
- Electrical Power: Power cables will be run underground from existing switches located west of CPP-603. Both the normal and standby power systems are accessible at this location. The switches are located approximately 2,094 ft from the proposed site. Both normal and standby power will be extended at 13.8 kV. Taking power from Substation No. 2 was considered; however, standby power is currently available from within INTEC. Thus, both normal and standby power will be routed as outlined above.
- Telephone/Communications: Telephone tie-ins would occur at the new Telephone Dial Room. The total distance of cable to Site 2 would be approximately 2,566 ft. Communication lines would tie into the existing INET system located at CPP-666. The total distance of cable to Site 2 would be approximately 2,566 ft.
- Life Safety: Ten pairs of fiber-optic cables from the new INTEC Telephone Dial Room to the new facility are required. Ideally the cables will be underground in a duct bank that is shared with the telephone and power. These cables will be in a dedicated conduit. Approximately 2,566 ft of cable is needed.

The routing for the above listed utilities are shown on page 26.

4.3 Site 3: Adjacent To and South of the Landfill Unit

4.3.1 Location

Access from the INTEC site and its immediate perimeter will be provided by an extension of the existing West Perimeter Road. Extension of the north-south road approximately 1,000 linear ft to the south would provide adequate access to the Proposed Site 3. Other INEEL remediation sites and the ICDF will be accessed with a new road tying the existing Lincoln Boulevard to the proposed West Perimeter Road extension.

Access for manual fire fighting efforts is adequate since this proposed site is accessible on all four sides and would have roads on three sides. Exposure to brush fire exists on all four sides, but is somewhat limited due to the fire break created by the three roads.

The proposed site is clean with no visible restrictions, interferences or disturbances.

4.3.2 Land Use/Zoning

This site is an undisturbed area. No other facilities are currently planned for this area.

4.3.3 Geology/Topography

This site is relatively flat with slight sloping to the east. Building finish floor elevations will be raised approximately 2 ft to facilitate drainage. Suitable fill will be available nearby from stockpiles resulting from the evaporation pond excavation.

Bedrock contours in this area are shown on page 21. This area overlaps areas with documented groundwater contamination as shown on pages 23-25.

4.3.4 Environmental Impact

This site does not contain any environmentally controlled areas.

4.3.5 Space/Layout

The SSSTF conceptual facility layout and site plan will be utilized for the purposes of this siting study. For the most part, the layout for Site 3 will be mirrored from the proposed Site 1 as shown on page 27. The evaporation pond would need to be located to the north or to the northeast of this site. Locating the evaporation pond to the north, however, would more severely impact any expansion planning of the landfill unit. In this layout, the amount of area available for expansion is severely limited to the south and would be restricted by landfill unit expansion on the north.

4.3.6 Utilities

- Potable Water: A 3-in. potable water line is available in the main INTEC utility tunnel. The best tie-in location for this site location is under Maple Street where the tunnel turns to the east toward the Coal-Fired Steam Generating Facility. A 3-in. potable water line would be routed from the tunnel directly west across the security fences and the access road then south to the proposed new SSSTF. This routing consists of approximately 4,034 ft of pipe, with

6-ft-deep trenching and little shoring required. Few underground utilities or other obstacles exist over the route.

- Process (Raw) Water: A line will be routed from a tie-in point in the utility tunnel at Birch Street. Approximately 3,293 ft of pipe is required.
- Fire Water: A looped arrangement of approximately 9,653 linear ft of 12-in.-diameter pipe is required to provide fire water to this site.
- Sanitary Sewer: The closest sanitary sewer manhole available for tie-in is MAH-SAB-WQ-419, located southwest of building CPP-1646 under Redwood Street. This manhole is connected to an 8-in. sanitary sewer line (WQ-NH-155397, on the INTEC West Side Sanitary Sewer System). The new line would run immediately west from the manhole beneath the security fencing and access road then run south to the proposed new SSSTF. The new line would be a pressurized 3-in. pipe buried 6 ft below grade. The routing consists of approximately 3,287 ft of trenching and piping with little shoring required. Few underground utilities or other obstacles exist over the route. An alternative for sanitary sewer for this proposed Site 3 would be to install a septic tank and drain field system at the proposed location.
- Electrical Power: Power cables will be run underground from existing switches located west of CPP-603. Both the normal and standby power systems are accessible at this location. The switches are located approximately 3,564 ft from the proposed site. Both normal and standby power will be extended at 13.8 kV, and the conductor size may need to be increased to compensate for voltage drop. Analysis will be performed during detailed design after the loads are clearly defined. Access to the site from the east would require construction of a roadway under the existing line. The conductors range in height above the ground from 20 to 40 ft; clearance needs to be a minimum of 20 ft 6 in.; therefore, the location of the access road needs to be coordinated with the location of the structures supporting the overhead conductors. Taking power from Substation No. 2 was considered; however, standby power is currently available from within INTEC. Thus, both normal and standby power will be routed as outlined above.
- Telephone/Communications: Telephone tie-ins would occur at the new Telephone Dial Room. The total distance of telephone cable to Site 3 would be approximately 4,070 ft. Communication lines would tie into the existing INET system located at CPP-666. The total distance of data cable to Site 3 would be approximately 4,070 ft.
- Life Safety: Ten pairs of fiber-optic cables from the new INTEC Telephone Dial Room to the new facility are required. Ideally the cables will be underground in a duct bank that is shared with the telephone and power. These cables will be in a dedicated conduit. Approximately 4,070 ft of cable is needed.

The routing for the above listed utilities are shown on page 26.

5. CRITERIA EVALUATION

Data from this siting study was input to the Criterium DecisionPlus software program developed by InfoHarvest, Inc.³ The goal was to select the best site based on the ranking of the three sites against the several primary facility criteria and sub-criteria. A summary of the model set-up is shown in Figure 5-1. Weights were assigned to each criterion and rankings were assigned to each site against each criterion.

The weights based on a scale from 1 to 5, with 1 being least important and 5 being most important, are shown in Table 1, page 29. The ranking values are also listed in Table 1. Table 2, starting on page 30, describes the reasoning behind each ranking value. A verbal description of each whole number ranking value is shown below:

- 0 – Cannot meet the criterion
- 1 – Poor, barely acceptable, alternative is seriously deficient in meeting the criterion
- 2 – Below average, alternative is inferior in meeting the criterion
- 3 – Average, meets the criterion but does not excel in comparison to the other alternatives
- 4 – Good, meets the criterion well
- 5 – Excellent, alternative excels in meeting the criterion

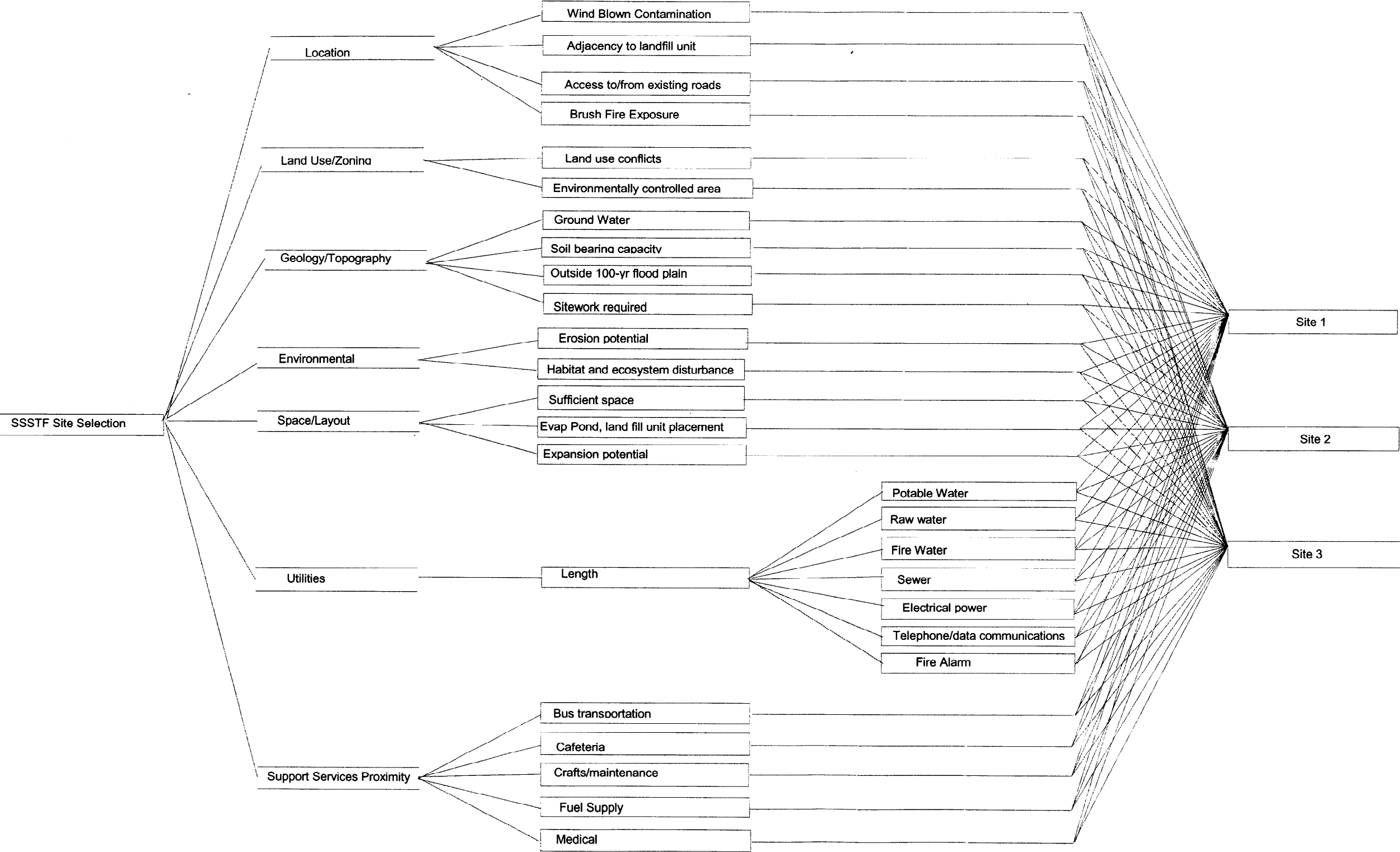


Figure 5-1. Summary of the decision evaluation criteria for the SSSTF Siting Study

6. FINAL SITE SELECTION

Based on this report and the weights, rankings, and other input to the Criterium DecisionPlus software, the recommended site selection is Site 1. See decision scores in Figure 5-2.

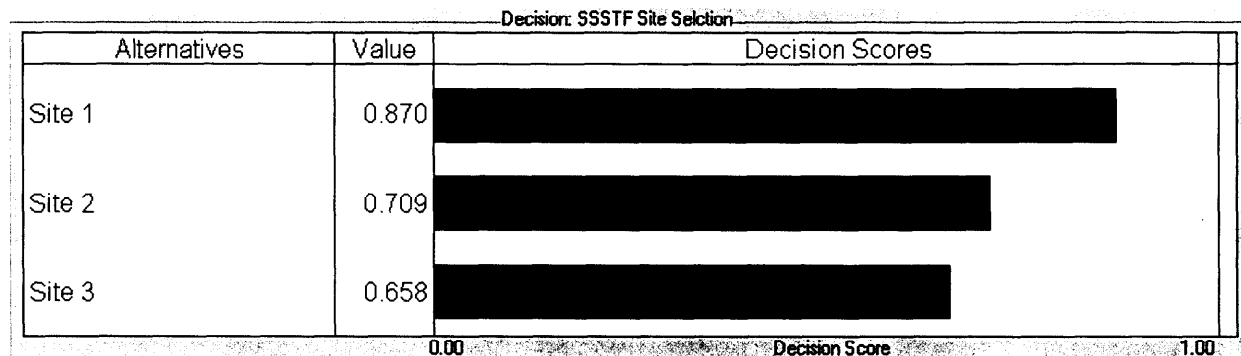


Figure 5-2. SSSTF Siting Study Decision Scores.

7. REFERENCES

1. U. S. Department of Energy Idaho Operations Office, Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13, Idaho National Engineering and Environmental Laboratory, DOE/ID-10660, Rev. 0, October 1999.
2. Berenbrock, Charles and Kjelstrom, L. C., Preliminary Water-Surface Elevations and Boundary of the 100-year Peak Flow in the Big Lost River at the Idaho National Engineering and Environmental Laboratory, Idaho, Report 98-4065, U. S. Geological Survey Water-Resources Investigations, 1998.
3. Criterium DecisionPlus version ??, Decision Analysis software published by Infoharvest, Inc.